

May 7, 2008

Analytical Report for Service Request No: K0802946

Matt Dahl  
PES Environmental  
1215 Fourth Avenue, Suite 1350  
Seattle, WA 98161

**RE: Portland**

Dear Matt:

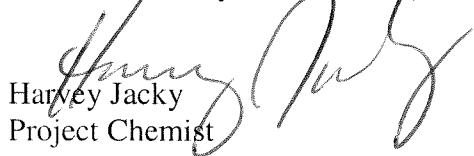
Enclosed are the results of the sample submitted to our laboratory on April 04, 2008. For your reference, these analyses have been assigned our service request number K0802946.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3260. You may also contact me via Email at HJacky@caslab.com.

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Harvey Jacky  
Project Chemist

HJ/lb

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## Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

## Inorganic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

## Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- \* The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

## Organic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

## Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

**Columbia Analytical Services, Inc.**  
**Kelso, WA**  
**State Certifications, Accreditations, and Licenses**

<b>Program</b>	<b>Number</b>
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

## **Case Narrative**

**COLUMBIA ANALYTICAL SERVICES, INC.**

**Client:** PES Environmental  
**Project:** Univar - Portland  
**Sample Matrix:** Soil

**Service Request No.:** K0802946  
**Date Received:** 04/04/08

**CASE NARRATIVE**

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

**Sample Receipt**

One soil samples were received for analysis at Columbia Analytical Services on 04/04/08. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

**General Chemistry Parameters**

No anomalies associated with the analysis of these samples were observed.

**Total Metals**

No anomalies associated with the analysis of these samples were observed.

**Diesel and Residual Range Organics by NWTPH-Dx**

No anomalies associated with the analysis of these samples were observed.

**Hydrocarbon Identification by NWTPH-HCID**

No anomalies associated with the analysis of these samples were observed.

**Organochlorine Pesticides by EPA Method 8081A**

**Continuing Calibration Verification Exceptions:**

The primary evaluation criterion was exceeded for the following analytes in Continuing Calibration Verification (CCV) 0423F005 and 0423F021: Toxaphene. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the average percent recovery of all analytes in the verification standard. The standard meets the alternative evaluation criteria.

**Sample Confirmation Notes:**

The confirmation comparison criterion of 40% difference for 4,4'-DDD was exceeded in SB-12. The lower of the two values was reported when there was an apparent interference on the alternate column that produced the higher value.

**Chlorophenoxy Herbicides by EPA Method 8151**

**Second Source Exceptions:**

Approved by \_\_\_\_\_

H Date 8/4/08

The analysis of Hesticides by EPA 8151 requires the use of dual column confirmation. When the Initial Calibration Verification (ICV) criteria are met for both columns, the higher of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for 2,4-D. The ICV results are reported from the acceptable column. The data quality is not affected. No further corrective action was necessary.

**Continuing Calibration Verification Exceptions:**

The analysis of Hesticides by EPA 8151M requires the use of dual column confirmation. When the Continuing Calibration Verification (CCV) criteria is met for both columns, the higher of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Dinoseb. The results are reported from the column with an acceptable CCV. The data quality is not affected. No further corrective action was necessary.

**Volatile Organic Compounds by EPA Method 8260B**

**Initial Calibration (ICAL) Exceptions:**

The primary evaluation criterion was exceeded for the following analytes in ICAL ID 7177: Bromomethane, Methylene Chloride, cis-1,2-Dichlorethane, Carbon Tetrachloride, Benzene, Toluene, Ethylbenzene, m,p-Xylenes, sec-Butylbenzene and n-Butylbenzene. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the mean Relative Standard Deviation (RSD) of all analytes in the calibration. The result of the mean RSD calculation was 11.4%. The calibration meets the alternative evaluation criteria. Note that CAS/Kelso policy does not allow the use of averaging if any analyte in the ICAL exceeds 30% RSD.

**Semivolatile Organic Compounds by EPA Method 8270C**

**Initial Calibration (ICAL) Exceptions:**

The primary evaluation criterion was exceeded for the following analytes in ICAL ID CAL7291: Naphthalene, 4-Chloroaniline, Hexachlorobutadiene, 2-Methylnaphthalene, 2-Fluorobiphenyl, Fluorene, 4-Chlorophenyl Phenyl Ether, 4-Bromophenyl Phenyl Ether, Hexachlorobenzene, Phenanthrene, Anthracene, Benzidine, Terphenyl-d14. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the mean Relative Standard Deviation (RSD) of all analytes in the calibration. The result of the mean RSD calculation was 12.6%. The calibration meets the alternative evaluation criteria. Note that CAS/Kelso policy does not allow the use of averaging if any analyte in the ICAL exceeds 30% RSD.

The primary evaluation criterion was exceeded for the following analytes in ICAL ID CAL7298: Benzoic Acid, 2,4,6-Tribromophenol. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the mean Relative Standard Deviation (RSD) of all analytes in the calibration. The result of the mean RSD calculation was 9.7%. The calibration meets the alternative evaluation criteria. Note that CAS/Kelso policy does not allow the use of averaging if any analyte in the ICAL exceeds 30% RSD.

**Surrogate Exceptions:**

The lower control criterion was exceeded by 1% for the 2-Fluorophenol surrogate in SB-12. The low recovery equates to a potential slight low bias. No further corrective action was taken.

**Relative Percent Difference Exceptions:**

The Relative Percent Difference (RPD) for the following analyte in the replicate Laboratory Control Sample (LCS) analyses (KWG0803314-3 and KWG0803314-4) was outside control criteria: 2,4-Dimethylphenol. All spike recoveries in the LCS/DLCS were within acceptance limits, indicating the analytical batch was in control. The analyte in question was not detected in the associated field sample. The data quality is not significantly affected. No further corrective action was appropriate.

Approved by \_\_\_\_\_

*K* Date *8/6/08*

## **Chain of Custody Documentation**



**Univar USA Inc.**  
Univar Environmental Affairs  
Tel 425/889-3715 Fax 425/889-4133

### Univar Chain of Custody/Laboratory Analysis Request Form

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Bill to: Jennifer Thompson  
Univar USA Inc.  
PO Box 34325  
Seattle, WA 98124-1325

Lab Name:	CHS
Address:	Kelso
Telephone:	360577-7330

Univar Project Site:	Portland		
Contractor Project Manager:	Matt Dahl		
Firm:	PCB Env		
Address:	1215 4th Ave S Seattle WA 98161		
Tel:	206 529-3980		
Sampler's Signature:	J. C. Ellis		

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Chloro Pest ChloroWaste 81	8260B Vacs	RCRA Metals 6060/2000	8370 Snacs	TPH - Oil & Gels (Water)	REMARKS:
SB-12	4/3/08/015			Soil	4	X	X	X	X	X	not 8151M K0802946

Relinquished by/date:	J. C. Ellis 4/3/08		Invoice Instructions – Univar to provide to Sampler (Circle code. If multiple codes apply, note in Remarks)				SPECIAL INSTRUCTIONS & COMMENTS: Fax copy of lab results to Envir. Affairs Dept., 425/889-4133		
Received by/date:	J. C. Ellis	4/4/08							
Relinquished by/date:	/								
Received by/date:	/								
Relinquished by/date:	/		Soil Investigation/Remediation	035, 133 or 058, 156					
Received by/date:	/		Water Investigation/Remediation	047, 145 or 165, 167					
Relinquished by/date:	/		Air-Soil Investigation or Remediation	034 or 057					
Received by/date:	/		Waste	171					

REPORT REQUIREMENTS: (circle)  I. Routine Report  II. Report  III. Data Validation Report  IV. CLP Deliverable Report

//Requested Report Date: \_\_\_\_\_

TURNAROUND TIME:  24 hr  48 hr  5 day  Standard (7-10 working days)  Provide Verbal Prelim. Results  Fax Prelim. Results

Columbia Analytical Services, Inc.  
Cooler Receipt and Preservation Form

PC HJ

Client / Project: Univer Service Request K08 2046

Received: 4/4/08 Opened: 4/4/08 By: AK

- |     |  |                 |                |   |                             |                |                |              |                |                       |
|-----|--|-----------------|----------------|---|-----------------------------|----------------|----------------|--------------|----------------|-----------------------|
| 1.  | Samples were received via?   | <i>US Mail</i>  | <i>Fed Ex</i>  | <i>UPS</i>                              | <i>DHL</i>                  | <i>GH</i>      | <i>GS</i>      | <i>PDX</i>   | <i>Courier</i> | <i>Hand Delivered</i> |
| 2.  | Samples were received in:  | <i>(circle)</i> | <i>Cooler</i>  | <i>Box</i>                              | <i>Envelope</i>             | <i>Other</i>   | <i>NA</i>      |              |                |                       |
| 3.  | Were <u>custody seals</u> on coolers?  | <i>NA</i>       | <i>Y</i>       | <i>N</i>                                | If yes, how many and where? |                |                |              |                |                       |
|     | If present, were custody seals intact?   | <i>Y</i>        | <i>N</i>       | If present, were they signed and dated? |                             |                |                |              |                |                       |
| 4.  | Is shipper's air-bill filed? If not, record air-bill number:   |                 |                |   |                             |                |                | <i>NA</i>    | <i>Y</i>       | <i>N</i>              |
| 5.  | Temperature of cooler(s) upon receipt ( $^{\circ}\text{C}$ ):  | <i>5.3</i>      |                |   |                             |                |                |              |                |                       |
|     | Temperature Blank ( $^{\circ}\text{C}$ ):  | <i>3.5</i>      |                |   |                             |                |                |              |                |                       |
| 6.  | If applicable, list Chain of Custody Numbers:  |                 |                |   |                             |                |                |              |                |                       |
| 7.  | Were custody papers properly filled out (ink, signed, etc.)?   |                 |                |   |                             |                |                | <i>NA</i>    | <i>Y</i>       | <i>N</i>              |
| 8.  | Packing material used.   | <i>Inserts</i>  | <i>Baggies</i> | <i>Bubble Wrap</i>                      | <i>Gel Packs</i>            | <i>Wet Ice</i> | <i>Sleeves</i> | <i>Other</i> |                |                       |
| 9.  | Did all bottles arrive in good condition (unbroken)? <i>Indicate in the table below.</i>                 |                 |                |   |                             |                |                | <i>NA</i>    | <i>Y</i>       | <i>N</i>              |
| 10. | Were all sample labels complete (i.e analysis, preservation, etc.)?                                      |                 |                |   |                             |                |                | <i>Y</i>     |                |                       |
| 11. | Did all sample labels and tags agree with custody papers? <i>Indicate in the table below</i>             |                 |                |   |                             |                |                | <i>Y</i>     |                |                       |
| 12. | Were appropriate bottles/containers and volumes received for the tests indicated?                        |                 |                |   |                             |                |                | <i>NA</i>    | <i>Y</i>       | <i>N</i>              |
| 13. | Were the pH-preserved bottles tested* received at the appropriate pH? <i>Indicate in the table below</i> |                 |                |   |                             |                |                | <i>NA</i>    | <i>Y</i>       | <i>N</i>              |
| 14. | Were VOA vials and 1631 Mercury bottles received without headspace? <i>Indicate in the table below.</i>  |                 |                |   |                             |                |                | <i>NA</i>    | <i>Y</i>       | <i>N</i>              |
| 15. | Are CWA Microbiology samples received with $>1/2$ the 24hr. hold time remaining from collection?         |                 |                |   |                             |                |                | <i>NA</i>    | <i>Y</i>       | <i>N</i>              |
| 16. | Was C12/Res negative?  |                 |                |   |                             |                |                | <i>NA</i>    | <i>Y</i>       | <i>N</i>              |

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

\*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

### *Additional Notes, Discrepancies, & Resolutions:*

## **Total Solids**

## COLUMBIA ANALYTICAL SERVICES, INC.

### Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946

### Total Solids

**Prep Method:** NONE  
**Analysis Method:** 160.3M  
**Test Notes:**

**Units:** PERCENT  
**Basis:** Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
SB-12	K0802946-001	04/03/2008	04/04/2008	04/08/2008	94.0	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

Client: Univar USA, Inc.  
Project: Portland  
Sample Matrix: Soil

Service Request: K0802946  
Date Collected: 04/03/2008  
Date Received: 04/04/2008  
Date Analyzed: 04/08/2008

**Duplicate Sample Summary  
Total Solids**

Prep Method: NONE Units: PERCENT  
Analysis Method: 160.3M Basis: Wet

Test Notes:

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
SB-12	K0802946-001	94.0	94.4	94.2	<1	

## **Metals**

METALS

- Cover Page -  
INORGANIC ANALYSIS DATA PACKAGE

Client: Univar USA, Inc.

Service Request: K0802946

Project No.:

Project Name: Portland

<u>Sample No.</u>	<u>Lab Sample ID.</u>
Batch QCD1	K0802515-001D
Batch QCS1	K0802515-001S
SB-12	K0802946-001
SB-12D	K0802946-001D
SB-12S	K0802946-001S
Method Blank	K0802946-MB
Batch QCD2	K0802999-035D
Batch QCS2	K0802999-035S

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

If yes-were raw data generated before  
application of background corrections?

Yes/No NO

Comments:

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Signature: Jessie Cai

Date: 4/22/08

## METALS

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## INORGANIC ANALYSIS DATA SHEET

Client: Univar USA, Inc. Service Request: K0802946  
 Project No.: NA Date Collected: 04/03/08  
 Project Name: Portland Date Received: 04/04/08  
 Matrix: SOIL Units: MG/KG  
 Basis: Dry

Sample Name: SB-12

Lab Code: K0802946-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	1.1	5	4/14/08	4/14/08	1.3		
Barium	6010B	1.0	2	4/14/08	4/17/08	81.3		
Cadmium	6010B	1.0	2	4/14/08	4/17/08	1.0	U	
Chromium	6010B	2.1	2	4/14/08	4/17/08	15.6		
Lead	6010B	21	2	4/14/08	4/17/08	27.8		
Mercury	7471A	0.02	1	4/10/08	4/14/08	0.04		
Selenium	7740	1.1	5	4/14/08	4/14/08	1.1	U	
Silver	6010B	2.1	2	4/14/08	4/17/08	2.1	U	

% Solids: 94.0

Comments:

## METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

Client: Univar USA, Inc. Service Request: K0802946  
 Project No.: NA Date Collected:  
 Project Name: Portland Date Received:  
 Matrix: SOIL Units: MG/KG  
 Basis: Dry

Sample Name: Method Blank

Lab Code: K0802946-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	1.0	5	4/14/08	4/14/08	1.0	U	
Barium	6010B	1.0	2	4/14/08	4/17/08	1.0	U	
Cadmium	6010B	1.0	2	4/14/08	4/17/08	1.0	U	
Chromium	6010B	2.0	2	4/14/08	4/17/08	2.0	U	
Lead	6010B	20	2	4/14/08	4/17/08	20	U	
Mercury	7471A	0.02	1	4/10/08	4/14/08	0.02	U	
Selenium	7740	1.0	5	4/14/08	4/14/08	1.0	U	
Silver	6010B	2.0	2	4/14/08	4/17/08	2.0	U	

% Solids: 100.0

Comments:

METALS

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SPIKE SAMPLE RECOVERY

Client: Univar USA, Inc.

Service Request: K0802946

Project No.:

Units: mg/kg

Project Name: Portland

Basis: Dry

Matrix: SOIL

% Solids: 90.6

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Sample Name: Batch QCS1

Lab Code: K0802515-001S

---

Analyte	Control Limit %R	Spike Result C	Sample Result C	Spike Added	%R	Q	Method
Mercury	64 - 127	0.45	0.02 U	0.50	91		7471A

An empty field in the Control Limit column indicates the control limit is not applicable

## METALS

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## SPIKE SAMPLE RECOVERY

Client: Univar USA, Inc.

Service Request: K0802946

Project No.:

Units: mg/kg

Project Name: Portland

Basis: Dry

Matrix: SOIL

% Solids: 84.7

Sample Name: Batch QCS2

Lab Code: K0802999-035S

Analyte	Control Limit %R	Spike Result C	Sample Result C	Spike Added	%R	Q	Method
Barium	76 - 127	520	78.6	468	94		6010B
Cadmium	65 - 135	11.6	1.2 U	11.7	99		6010B
Chromium	48 - 156	60.3	15.5	46.8	96		6010B
Lead	45 - 150	112	23.4 U	117	96		6010B
Silver	48 - 141	10.4	2.3 U	11.7	89		6010B

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

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SPIKE SAMPLE RECOVERY

Client: Univar USA, Inc.

Service Request: K0802946

Project No.:

Units: mg/kg

Project Name: Portland

Basis: Dry

Matrix: SOIL

% Solids: 94.0

Sample Name: SB-12S

Lab Code: K0802946-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	45 - 135	8.3		1.3		8.5	82		7060A
Selenium	48 - 130	8.5		1.1	U	8.5	100		7740

An empty field in the Control Limit column indicates the control limit is not applicable

**METALS**

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**DUPLICATES**

Client: Univar USA, Inc. Service Request: K0802946  
Project No.: Units: mg/kg  
Project Name: Portland Basis: Dry  
Matrix: SOIL % Solids: 90.6

Sample Name: Batch QCD1

Lab Code: K0802515-001D

Analyte	Control Limit (%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.02	U	0.02	U			7471A

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

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DUPLICATES

Client: Univar USA, Inc.

Service Request: K0802946

Project No.:

Units: mg/kg

Project Name: Portland

Basis: Dry

Matrix: SOIL

% Solids: 84.7

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Sample Name: Batch QCD2

Lab Code: K0802999-035D

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Analyte	Control Limit(%)	Sample (S) C	Duplicate (D) C	RPD	Q	Method
Barium	30	78.6	82.9	5		6010B
Cadmium		1.2 U	1.2 U			6010B
Chromium	30	15.5	16.2	4		6010B
Lead		23 U	24 U			6010B
Silver		2.3 U	2.4 U			6010B

An empty field in the Control Limit column indicates the control limit is not applicable

**METALS**

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**DUPLICATES**

Client: Univar USA, Inc. Service Request: K0802946  
Project No.: Units: mg/kg  
Project Name: Portland Basis: Dry  
Matrix: SOIL % Solids: 94.0

Sample Name: SB-12D

Lab Code: K0802946-001D

Analyte	Control Limit(%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		1.3		1.3		1		7060A
Selenium		1.1	U	1.1	U			7740

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

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LABORATORY CONTROL SAMPLE

Client: Univar USA, Inc.

Service Request: K0802946

Project No.:

Project Name: Portland

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source: ERA Lot #D045540

Analyte	Aqueous mg/L			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits (%)	%R
Arsenic				146	142	76.0	126	97
Barium				351	355	81.0	134	101
Cadmium				91.9	94.4	92.0	125	103
Chromium				176	189	83.0	125	107
Lead				68.1	67.8	76.0	138	100
Mercury				1.77	1.61	76.0	121	91
Selenium				70.5	66.0	76.0	136	94
Silver				93.0	93.2	89.0	120	100

## **NWTPH-Dx**

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 04/03/2008  
**Date Received:** 04/04/2008

**Diesel and Residual Range Organics**

**Sample Name:** SB-12                    **Units:** mg/Kg  
**Lab Code:** K0802946-001                **Basis:** Dry  
**Extraction Method:** EPA 3550B            **Level:** Low  
**Analysis Method:** NWTPH-Dx

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	41	H	27	1	04/11/08	04/18/08	KWG0803324	
Residual Range Organics (RRO)	290	O	110	1	04/11/08	04/18/08	KWG0803324	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	78	50-150	04/18/08	Acceptable
n-Triacontane	84	50-150	04/18/08	Acceptable

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** NA  
**Date Received:** NA

**Diesel and Residual Range Organics**

**Sample Name:** Method Blank      **Units:** mg/Kg  
**Lab Code:** KWG0803324-4      **Basis:** Dry  
**Extraction Method:** EPA 3550B      **Level:** Low  
**Analysis Method:** NWTPH-Dx

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	25	1	04/11/08	04/18/08	KWG0803324	
Residual Range Organics (RRO)	ND	U	100	1	04/11/08	04/18/08	KWG0803324	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	78	50-150	04/18/08	Acceptable
n-Triacontane	77	50-150	04/18/08	Acceptable

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946**Surrogate Recovery Summary  
Diesel and Residual Range Organics**

**Extraction Method:** EPA 3550B  
**Analysis Method:** NWTPH-Dx

**Units:** PERCENT  
**Level:** Low

<b>Sample Name</b>	<b>Lab Code</b>	<b>Sur1</b>	<b>Sur2</b>
SB-12	K0802946-001	78	84
Batch QCDUP	KWG0803324-1	74	102
Method Blank	KWG0803324-4	78	77
Batch QC	K0803073-001	65	75
Lab Control Sample	KWG0803324-2	86	79
Duplicate Lab Control Sample	KWG0803324-3	80	75

**Surrogate Recovery Control Limits (%)**

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Sur1 = o-Terphenyl                    50-150  
Sur2 = n-Triaccontane                50-150

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Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/11/2008  
**Date Analyzed:** 04/18/2008

**Duplicate Sample Summary**  
**Diesel and Residual Range Organics**

<b>Sample Name:</b>	Batch QC	<b>Units:</b>	mg/Kg
<b>Lab Code:</b>	K0803073-001	<b>Basis:</b>	Dry
<b>Extraction Method:</b>	EPA 3550B	<b>Level:</b>	Low
<b>Analysis Method:</b>	NWTPH-Dx	<b>Extraction Lot:</b>	KWG0803324

<b>Analyte Name</b>	<b>MRL</b>	<b>Sample Result</b>	<b>Batch QCDUP</b> KWG0803324-1		<b>Relative Percent Difference</b>	<b>RPD Limit</b>
			<b>Duplicate Sample Result</b>	<b>Average</b>		
Diesel Range Organics (DRO)	32	180	210	200	17	40
Residual Range Organics (RRO)	130	1700	1800	1700	5	40

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/11/2008  
**Date Analyzed:** 04/18/2008

**Lab Control Spike/Duplicate Lab Control Spike Summary**  
**Diesel and Residual Range Organics**

**Extraction Method:** EPA 3550B  
**Analysis Method:** NWTPH-Dx

**Units:** mg/Kg  
**Basis:** Dry  
**Level:** Low  
**Extraction Lot:** KWG0803324

<b>Analyte Name</b>	Lab Control Sample KWG0803324-2			Duplicate Lab Control Sample KWG0803324-3			<b>%Rec Limits</b>	<b>RPD</b>	<b>RPD Limit</b>			
	Lab Control Spike			Duplicate Lab Control Spike								
	<b>Result</b>	<b>Expected</b>	<b>%Rec</b>	<b>Result</b>	<b>Expected</b>	<b>%Rec</b>						
Diesel Range Organics (DRO)	248	267	93	252	267	94	63-120	1	40			
Residual Range Organics (RRO)	112	133	84	119	133	89	60-131	6	40			

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## **NWTPH-HCID**

# COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 4/3/2008  
**Date Received:** 4/4/2008

### Hydrocarbon Identification Screen

Sample Name: SB-12 Units: mg/Kg (ppm)  
Lab Code: K0802946-001 Basis: NA  
Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline Range Organics	EPA 3550B	NWTPH-HCID	20	1	4/11/2008	4/18/2008	ND	
Diesel Range Organics	EPA 3550B	NWTPH-HCID	50	1	4/11/2008	4/18/2008	ND	
Residual Range Organics	EPA 3550B	NWTPH-HCID	100	1	4/11/2008	4/18/2008	D	

D Detected at or above the method reporting limit. Follow-up analyses are required for quantitative results.

Approved By:

IS22/020597p

Date: 04/18/08

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** NA  
**Date Received:** NA

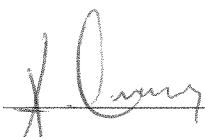
Hydrocarbon Identification Screen

Sample Name: Method Blank Units: mg/Kg (ppm)  
Lab Code: KWG0803324-4 Basis: NA  
Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline Range Organics	EPA 3550B	NWTPH-HCID	20	1	4/11/2008	4/18/2008	ND	
Diesel Range Organics	EPA 3550B	NWTPH-HCID	50	1	4/11/2008	4/18/2008	ND	
Residual Range Organics	EPA 3550B	NWTPH-HCID	100	1	4/11/2008	4/18/2008	ND	

Approved By:

IS22/020597p



Date: 04/18/08

COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 4/3/2008  
**Date Received:** 4/4/2008  
**Date Extracted:** 4/11/2008  
**Date Analyzed:** 4/18/2008

Surrogate Recovery Summary  
Hydrocarbon Identification Screen

Prep Method: EPA 3550B Units: PERCENT  
Analysis Method: NWTPH-HCID Basis: NA

Sample Name	Lab Code	Test Notes	P e r c e n t R e c o v e r y		
			o-Terphenyl	4-Bromofluorobenzene	n-Triacontane
SB-12	K0802946-001		78	77	84
Method Blank	KWG0803324-4		78	80	77

CAS Acceptance Limits: 50-150 20-150 50-150

Approved By:  
SUR3/111397p

*Yours*

Date: 04/18/08

**Organochlorine Pesticides  
EPA Method 8081**

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 04/03/2008  
**Date Received:** 04/04/2008

**Organochlorine Pesticides**

<b>Sample Name:</b> SB-12	<b>Units:</b> ug/Kg
<b>Lab Code:</b> K0802946-001	<b>Basis:</b> Dry
<b>Extraction Method:</b> EPA 3541	<b>Level:</b> Low
<b>Analysis Method:</b> 8081A	

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
beta-BHC	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
gamma-BHC (Lindane)	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
delta-BHC	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
Heptachlor	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
Aldrin	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
Heptachlor Epoxide	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
<b>gamma-Chlordane†</b>	<b>63</b>	5.0	1	04/11/08	04/23/08	KWG0803317	
Endosulfan I	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
<b>alpha-Chlordane</b>	<b>43</b>	5.0	1	04/11/08	04/23/08	KWG0803317	
<b>Dieldrin</b>	<b>10</b>	5.0	1	04/11/08	04/23/08	KWG0803317	
<b>4,4'-DDE</b>	<b>23</b>	5.0	1	04/11/08	04/23/08	KWG0803317	
Endrin	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
Endosulfan II	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
<b>4,4'-DDD</b>	<b>8.3 P</b>	5.0	1	04/11/08	04/23/08	KWG0803317	
Endrin Aldehyde	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
Endosulfan Sulfate	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
<b>4,4'-DDT</b>	<b>72</b>	5.0	1	04/11/08	04/23/08	KWG0803317	
Endrin Ketone	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
Methoxychlor	ND U	5.0	1	04/11/08	04/23/08	KWG0803317	
Toxaphene	ND U	250	1	04/11/08	04/23/08	KWG0803317	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	78	25-125	04/23/08	Acceptable
Decachlorobiphenyl	84	22-142	04/23/08	Acceptable

**† Analyte Comments**

gamma-Chlordane For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

**Comments:** \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** NA  
**Date Received:** NA

**Organochlorine Pesticides**

<b>Sample Name:</b>	Method Blank	<b>Units:</b>	ug/Kg
<b>Lab Code:</b>	KWG0803317-4	<b>Basis:</b>	Dry
<b>Extraction Method:</b>	EPA 3541	<b>Level:</b>	Low
<b>Analysis Method:</b>	8081A		

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
beta-BHC	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
gamma-BHC (Lindane)	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
delta-BHC	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Heptachlor	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Aldrin	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Heptachlor Epoxide	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
gamma-Chlordane†	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Endosulfan I	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
alpha-Chlordane	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Dieldrin	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
4,4'-DDE	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Endrin	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Endosulfan II	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
4,4'-DDD	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Endrin Aldehyde	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Endosulfan Sulfate	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
4,4'-DDT	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Endrin Ketone	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Methoxychlor	ND U	4.6	1	04/11/08	04/23/08	KWG0803317	
Toxaphene	ND U	230	1	04/11/08	04/23/08	KWG0803317	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	72	25-125	04/23/08	Acceptable
Decachlorobiphenyl	86	22-142	04/23/08	Acceptable

† Analyte Comments

gamma-Chlordane For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946**Surrogate Recovery Summary  
Organochlorine Pesticides**

**Extraction Method:** EPA 3541  
**Analysis Method:** 8081A

**Units:** PERCENT  
**Level:** Low

<b>Sample Name</b>	<b>Lab Code</b>	<b>Sur1</b>	<b>Sur2</b>
SB-12	K0802946-001	78	84
Method Blank	KWG0803317-4	72	86
SB-12MS	KWG0803317-1	71	82
SB-12DMS	KWG0803317-2	80	85
Lab Control Sample	KWG0803317-3	82	86

**Surrogate Recovery Control Limits (%)**

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Sur1 = Tetrachloro-m-xylene                    25-125  
Sur2 = Decachlorobiphenyl                    22-142

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Results flagged with an asterisk (\*) indicate values outside control criteria.

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## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/11/2008  
**Date Analyzed:** 04/23/2008

**Matrix Spike/Duplicate Matrix Spike Summary**  
**Organochlorine Pesticides**

<b>Sample Name:</b> SB-12	<b>Units:</b> ug/Kg
<b>Lab Code:</b> K0802946-001	<b>Basis:</b> Dry
<b>Extraction Method:</b> EPA 3541	<b>Level:</b> Low
<b>Analysis Method:</b> 8081A	<b>Extraction Lot:</b> KWG0803317

<b>Analyte Name</b>	<b>Sample Result</b>	SB-12MS			SB-12DMS			<b>%Rec Limits</b>	<b>RPD</b>	<b>RPD Limit</b>	
		KGW0803317-1			KGW0803317-2						
		<b>Matrix Spike</b>	<b>Result</b>	<b>Expected</b>	<b>%Rec</b>	<b>Duplicate Matrix Spike</b>	<b>Result</b>	<b>Expected</b>	<b>%Rec</b>		
alpha-BHC	ND	68.9	96.5	71		77.9	96.9	80	36-145	12	40
beta-BHC	ND	73.9	96.5	77		79.2	96.9	82	38-148	7	40
gamma-BHC (Lindane)	ND	71.6	96.5	74		79.5	96.9	82	33-154	10	40
delta-BHC	ND	79.9	96.5	83		86.7	96.9	89	40-164	8	40
Heptachlor	ND	73.6	96.5	76		76.4	96.9	79	38-145	4	40
Aldrin	ND	71.3	96.5	74		78.4	96.9	81	37-143	9	40
Heptachlor Epoxide	ND	69.2	96.5	72		75.3	96.9	78	29-150	8	40
gamma-Chlordane	63	129	96.5	68		141	96.9	80	27-149	9	40
Endosulfan I	ND	82.4	96.5	85		75.1	96.9	78	18-133	9	40
alpha-Chlordane	43	110	96.5	69		119	96.9	78	33-141	8	40
Dieldrin	10	81.1	96.5	73		87.1	96.9	79	37-146	7	40
4,4'-DDE	23	94.4	96.5	74		102	96.9	82	32-156	8	40
Endrin	ND	74.3	96.5	77		80.5	96.9	83	34-161	8	40
Endosulfan II	ND	67.0	96.5	69		73.6	96.9	76	19-147	9	40
4,4'-DDD	8.3	89.1	96.5	84		86.7	96.9	81	26-161	3	40
Endrin Aldehyde	ND	63.6	96.5	66		67.2	96.9	69	11-147	5	40
Endosulfan Sulfate	ND	72.1	96.5	75		75.8	96.9	78	28-149	5	40
4,4'-DDT	72	152	96.5	82		158	96.9	89	22-174	4	40
Endrin Ketone	ND	72.4	96.5	75		74.2	96.9	77	36-149	3	40
Methoxychlor	ND	76.5	96.5	79		81.5	96.9	84	37-162	6	40

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/11/2008  
**Date Analyzed:** 04/23/2008

**Lab Control Spike Summary**  
**Organochlorine Pesticides**

**Extraction Method:** EPA 3541  
**Analysis Method:** 8081A

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low  
**Extraction Lot:** KWG0803317

## Lab Control Sample

KWG0803317-3

## Lab Control Spike

Analyte Name	Result	Expected	%Rec	%Rec Limits
alpha-BHC	82.2	100	82	45-150
beta-BHC	85.9	100	86	47-149
gamma-BHC (Lindane)	83.5	100	84	48-146
delta-BHC	91.2	100	91	59-162
Heptachlor	78.6	100	79	47-142
Aldrin	79.7	100	80	43-141
Heptachlor Epoxide	79.7	100	80	48-140
gamma-Chlordane	81.2	100	81	42-145
Endosulfan I	77.7	100	78	36-124
alpha-Chlordane	81.0	100	81	42-145
Dieldrin	85.1	100	85	50-142
4,4'-DDE	85.2	100	85	51-149
Endrin	85.5	100	86	54-155
Endosulfan II	80.6	100	81	42-130
4,4'-DDD	86.7	100	87	51-152
Endrin Aldehyde	72.1	100	72	31-139
Endosulfan Sulfate	82.6	100	83	48-143
4,4'-DDT	91.7	100	92	59-151
Endrin Ketone	85.4	100	85	41-158
Methoxychlor	88.8	100	89	55-153

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**Chlorophenoxy Herbicides  
EPA Method 8151 A**

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 04/03/2008  
**Date Received:** 04/04/2008

**Chlorinated Herbicides**

<b>Sample Name:</b>	SB-12	<b>Units:</b>	ug/Kg
<b>Lab Code:</b>	K0802946-001	<b>Basis:</b>	Dry
<b>Extraction Method:</b>	METHOD	<b>Level:</b>	Low
<b>Analysis Method:</b>	8151A		

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND U	50	1	04/10/08	04/18/08	KWG0803278	
Dicamba	ND U	50	1	04/10/08	04/18/08	KWG0803278	
MCPP	ND U	10000	1	04/10/08	04/18/08	KWG0803278	
MCPA	ND U	10000	1	04/10/08	04/18/08	KWG0803278	
Dichlorprop	ND U	50	1	04/10/08	04/18/08	KWG0803278	
2,4-D	ND U	50	1	04/10/08	04/18/08	KWG0803278	
2,4,5-TP (Silvex)	ND U	50	1	04/10/08	04/18/08	KWG0803278	
2,4,5-T	ND U	50	1	04/10/08	04/18/08	KWG0803278	
2,4-DB	ND U	50	1	04/10/08	04/18/08	KWG0803278	
Dinoseb	ND U	50	1	04/10/08	04/18/08	KWG0803278	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	115	27-171	04/18/08	Acceptable

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** NA  
**Date Received:** NA

**Chlorinated Herbicides**

**Sample Name:** Method Blank      **Units:** ug/Kg  
**Lab Code:** KWG0803278-4      **Basis:** Dry  
**Extraction Method:** METHOD      **Level:** Low  
**Analysis Method:** 8151A

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dalapon	ND U	47	1	04/10/08	04/18/08	KWG0803278	
Dicamba	ND U	47	1	04/10/08	04/18/08	KWG0803278	
MCPP	ND U	9400	1	04/10/08	04/18/08	KWG0803278	
MCPA	ND U	9400	1	04/10/08	04/18/08	KWG0803278	
Dichlorprop	ND U	47	1	04/10/08	04/18/08	KWG0803278	
2,4-D	ND U	47	1	04/10/08	04/18/08	KWG0803278	
2,4,5-TP (Silvex)	ND U	47	1	04/10/08	04/18/08	KWG0803278	
2,4,5-T	ND U	47	1	04/10/08	04/18/08	KWG0803278	
2,4-DB	ND U	47	1	04/10/08	04/18/08	KWG0803278	
Dinoseb	ND U	47	1	04/10/08	04/18/08	KWG0803278	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4-Dichlorophenylacetic Acid	93	27-171	04/18/08	Acceptable

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946**Surrogate Recovery Summary  
Chlorinated Herbicides**

**Extraction Method:** METHOD  
**Analysis Method:** 8151A

**Units:** PERCENT  
**Level:** Low

<b><u>Sample Name</u></b>	<b><u>Lab Code</u></b>	<b><u>Sur1</u></b>
SB-12	K0802946-001	115
Method Blank	KWG0803278-4	93
SB-12MS	KWG0803278-1	114
SB-12DMS	KWG0803278-2	119
Lab Control Sample	KWG0803278-3	93

**Surrogate Recovery Control Limits (%)**

Sur1 = 2,4-Dichlorophenylacetic Acid      27-171

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/10/2008  
**Date Analyzed:** 04/18/2008

**Matrix Spike/Duplicate Matrix Spike Summary**  
**Chlorinated Herbicides**

<b>Sample Name:</b> SB-12	<b>Units:</b> ug/Kg
<b>Lab Code:</b> K0802946-001	<b>Basis:</b> Dry
<b>Extraction Method:</b> METHOD	<b>Level:</b> Low
<b>Analysis Method:</b> 8151A	<b>Extraction Lot:</b> KWG0803278

Analyte Name	Sample Result	SB-12MS			SB-12DMS			%Rec Limits	RPD	RPD Limit			
		KGW0803278-1			KGW0803278-2								
		Matrix Spike			Duplicate Matrix Spike								
Analyte Name	Sample Result	Result	Expected	%Rec	Result	Expected	%Rec						
Dalapon	ND	133	166	80	121	166	73	10-161	9	40			
Dicamba	ND	153	166	92	149	166	90	30-163	3	40			
MCPP	ND	16800	16600	102	15500	16600	94	10-186	8	40			
MCPA	ND	16200	16600	98	16200	16600	98	10-168	0	40			
Dichlorprop	ND	152	166	92	149	166	90	15-163	2	40			
2,4-D	ND	153	166	92	155	166	94	10-186	1	40			
2,4,5-TP (Silvex)	ND	157	166	95	153	166	92	32-162	3	40			
2,4,5-T	ND	188	166	114	178	166	108	31-166	5	40			
2,4-DB	ND	188	166	114	166	166	100	11-192	13	40			
Dinoseb	ND	99.3	166	60	111	166	67	10-140	11	40			

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/10/2008  
**Date Analyzed:** 04/18/2008

**Lab Control Spike Summary**  
**Chlorinated Herbicides**

**Extraction Method:** METHOD  
**Analysis Method:** 8151A

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low  
**Extraction Lot:** KWG0803278

## Lab Control Sample

KWG0803278-3

## Lab Control Spike

Analyte Name	Lab Control Spike			%Rec Limits
	Result	Expected	%Rec	
Dalapon	199	167	119	17-126
Dicamba	161	167	96	56-119
MCPP	17000	16700	102	39-122
MCPA	16900	16700	101	40-125
Dichlorprop	160	167	96	51-117
2,4-D	156	167	94	47-120
2,4,5-TP (Silvex)	176	167	106	56-134
2,4,5-T	169	167	101	57-137
2,4-DB	193	167	116	33-176
Dinoseb	87.5	167	53	10-131

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**Volatile Organic Compounds  
EPA Method 8260B**

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 04/03/2008  
**Date Received:** 04/04/2008

**Volatile Organic Compounds**

<b>Sample Name:</b>	SB-12	<b>Units:</b>	ug/Kg
<b>Lab Code:</b>	K0802946-001	<b>Basis:</b>	Dry
<b>Extraction Method:</b>	EPA 5030A	<b>Level:</b>	Low
<b>Analysis Method:</b>	8260B		

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Chloromethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Vinyl Chloride	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Bromomethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Chloroethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Trichlorofluoromethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Acetone	ND U	24	1	04/07/08	04/07/08	KWG0803227	
1,1-Dichloroethene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Carbon Disulfide	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Methylene Chloride	ND U	12	1	04/07/08	04/07/08	KWG0803227	
trans-1,2-Dichloroethene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
1,1-Dichloroethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
2-Butanone (MEK)	ND U	24	1	04/07/08	04/07/08	KWG0803227	
2,2-Dichloropropane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
cis-1,2-Dichloroethene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Chloroform	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Bromochloromethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
1,1,1-Trichloroethane (TCA)	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
1,1-Dichloropropene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Carbon Tetrachloride	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
1,2-Dichloroethane (EDC)	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Benzene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Trichloroethene (TCE)	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
1,2-Dichloropropane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Bromodichloromethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Dibromomethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
2-Hexanone	ND U	24	1	04/07/08	04/07/08	KWG0803227	
cis-1,3-Dichloropropene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Toluene	9.5	5.9	1	04/07/08	04/07/08	KWG0803227	
trans-1,3-Dichloropropene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
1,1,2-Trichloroethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
4-Methyl-2-pentanone (MIBK)	ND U	24	1	04/07/08	04/07/08	KWG0803227	
1,3-Dichloropropane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 04/03/2008  
**Date Received:** 04/04/2008

**Volatile Organic Compounds**

<b>Sample Name:</b>	SB-12	<b>Units:</b>	ug/Kg
<b>Lab Code:</b>	K0802946-001	<b>Basis:</b>	Dry
<b>Extraction Method:</b>	EPA 5030A	<b>Level:</b>	Low
<b>Analysis Method:</b>	8260B		

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tetrachloroethene (PCE)	7.0	5.9	1	04/07/08	04/07/08	KWG0803227	
Dibromochloromethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
1,2-Dibromoethane (EDB)	ND U	24	1	04/07/08	04/07/08	KWG0803227	
Chlorobenzene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
1,1,1,2-Tetrachloroethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Ethylbenzene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
<b>m,p-Xylenes</b>	<b>19</b>	5.9	1	04/07/08	04/07/08	KWG0803227	
<b>o-Xylene</b>	<b>7.0</b>	5.9	1	04/07/08	04/07/08	KWG0803227	
Styrene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Bromoform	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Isopropylbenzene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
1,1,2,2-Tetrachloroethane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
1,2,3-Trichloropropane	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
Bromobenzene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
n-Propylbenzene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
2-Chlorotoluene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
4-Chlorotoluene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
1,3,5-Trimethylbenzene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
tert-Butylbenzene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
<b>1,2,4-Trimethylbenzene</b>	<b>34</b>	24	1	04/07/08	04/07/08	KWG0803227	
sec-Butylbenzene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
1,3-Dichlorobenzene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
4-Isopropyltoluene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
1,4-Dichlorobenzene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
n-Butylbenzene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
1,2-Dichlorobenzene	ND U	5.9	1	04/07/08	04/07/08	KWG0803227	
1,2-Dibromo-3-chloropropane	ND U	24	1	04/07/08	04/07/08	KWG0803227	
1,2,4-Trichlorobenzene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
1,2,3-Trichlorobenzene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
Naphthalene	ND U	24	1	04/07/08	04/07/08	KWG0803227	
Hexachlorobutadiene	ND U	24	1	04/07/08	04/07/08	KWG0803227	

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 04/03/2008  
**Date Received:** 04/04/2008

**Volatile Organic Compounds**

**Sample Name:** SB-12                           **Units:** ug/Kg  
**Lab Code:** K0802946-001                   **Basis:** Dry

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	89	61-116	04/07/08	Acceptable
Toluene-d8	90	63-116	04/07/08	Acceptable
4-Bromofluorobenzene	89	58-117	04/07/08	Acceptable

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** NA  
**Date Received:** NA

**Volatile Organic Compounds**

<b>Sample Name:</b>	Method Blank	<b>Units:</b>	ug/Kg
<b>Lab Code:</b>	KWG0803227-5	<b>Basis:</b>	Dry
<b>Extraction Method:</b>	EPA 5030A	<b>Level:</b>	Low
<b>Analysis Method:</b>	8260B		

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Chloromethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Vinyl Chloride	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Bromomethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Chloroethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Trichlorofluoromethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Acetone	ND U	20	1	04/07/08	04/07/08	KWG0803227	
1,1-Dichloroethene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Carbon Disulfide	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Methylene Chloride	ND U	10	1	04/07/08	04/07/08	KWG0803227	
trans-1,2-Dichloroethene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
1,1-Dichloroethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
2-Butanone (MEK)	ND U	20	1	04/07/08	04/07/08	KWG0803227	
2,2-Dichloropropane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
cis-1,2-Dichloroethene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Chloroform	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Bromochloromethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
1,1-Dichloropropene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Carbon Tetrachloride	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
1,2-Dichloroethane (EDC)	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Benzene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Trichloroethene (TCE)	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
1,2-Dichloropropane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Bromodichloromethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Dibromomethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
2-Hexanone	ND U	20	1	04/07/08	04/07/08	KWG0803227	
cis-1,3-Dichloropropene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Toluene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
trans-1,3-Dichloropropene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
1,1,2-Trichloroethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	04/07/08	04/07/08	KWG0803227	
1,3-Dichloropropane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** NA  
**Date Received:** NA

**Volatile Organic Compounds**

<b>Sample Name:</b>	Method Blank	<b>Units:</b>	ug/Kg
<b>Lab Code:</b>	KWG0803227-5	<b>Basis:</b>	Dry
<b>Extraction Method:</b>	EPA 5030A	<b>Level:</b>	Low
<b>Analysis Method:</b>	8260B		

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Tetrachloroethene (PCE)	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Dibromochloromethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
1,2-Dibromoethane (EDB)	ND U	20	1	04/07/08	04/07/08	KWG0803227	
Chlorobenzene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
1,1,1,2-Tetrachloroethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Ethylbenzene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
m,p-Xylenes	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
o-Xylene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Styrene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Bromoform	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Isopropylbenzene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
1,2,3-Trichloropropane	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
Bromobenzene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
n-Propylbenzene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
2-Chlorotoluene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
4-Chlorotoluene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
1,3,5-Trimethylbenzene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
tert-Butylbenzene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
1,2,4-Trimethylbenzene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
sec-Butylbenzene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
1,3-Dichlorobenzene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
4-Isopropyltoluene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
1,4-Dichlorobenzene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
n-Butylbenzene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
1,2-Dichlorobenzene	ND U	5.0	1	04/07/08	04/07/08	KWG0803227	
1,2-Dibromo-3-chloropropane	ND U	20	1	04/07/08	04/07/08	KWG0803227	
1,2,4-Trichlorobenzene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
1,2,3-Trichlorobenzene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
Naphthalene	ND U	20	1	04/07/08	04/07/08	KWG0803227	
Hexachlorobutadiene	ND U	20	1	04/07/08	04/07/08	KWG0803227	

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** NA  
**Date Received:** NA

**Volatile Organic Compounds**

**Sample Name:** Method Blank                    **Units:** ug/Kg  
**Lab Code:** KWG0803227-5                    **Basis:** Dry

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	88	61-116	04/07/08	Acceptable
Toluene-d8	90	63-116	04/07/08	Acceptable
4-Bromofluorobenzene	89	58-117	04/07/08	Acceptable

**Comments:** \_\_\_\_\_

\_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946**Surrogate Recovery Summary  
Volatile Organic Compounds**

**Extraction Method:** EPA 5030A  
**Analysis Method:** 8260B

**Units:** PERCENT  
**Level:** Low

<b>Sample Name</b>	<b>Lab Code</b>	<b>Sur1</b>	<b>Sur2</b>	<b>Sur3</b>
SB-12	K0802946-001	89	90	89
Method Blank	KWG0803227-5	88	90	89
SB-12MS	KWG0803227-1	89	88	87
SB-12DMS	KWG0803227-2	90	88	88
Lab Control Sample	KWG0803227-3	89	89	92
Duplicate Lab Control Sample	KWG0803227-4	88	90	90

**Surrogate Recovery Control Limits (%)**

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Sur1 = Dibromofluoromethane	61-116
Sur2 = Toluene-d8	63-116
Sur3 = 4-Bromofluorobenzene	58-117

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Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/07/2008  
**Date Analyzed:** 04/07/2008

**Matrix Spike/Duplicate Matrix Spike Summary**  
**Volatile Organic Compounds**

<b>Sample Name:</b> SB-12	<b>Units:</b> ug/Kg
<b>Lab Code:</b> K0802946-001	<b>Basis:</b> Dry
<b>Extraction Method:</b> EPA 5030A	<b>Level:</b> Low
<b>Analysis Method:</b> 8260B	<b>Extraction Lot:</b> KWG0803227

Analyte Name	Sample Result	SB-12MS			SB-12DMS			%Rec Limits	RPD	RPD Limit			
		KGW0803227-1			KGW0803227-2								
		Matrix Spike			Duplicate Matrix Spike								
Analyte Name	Sample Result	Result	Expected	%Rec	Result	Expected	%Rec						
1,1-Dichloroethene	ND	55.8	58.6	95	50.7	56.9	89	40-148	10	40			
Benzene	ND	57.7	58.6	99	53.6	56.9	94	38-132	7	40			
Trichloroethene (TCE)	ND	52.0	58.6	89	47.8	56.9	84	32-135	9	40			
Toluene	9.5	58.0	58.6	83	55.5	56.9	81	26-133	4	40			
Chlorobenzene	ND	48.7	58.6	83	44.1	56.9	77	19-129	10	40			
1,2-Dichlorobenzene	ND	43.4	58.6	74	39.0	56.9	69	10-130	11	40			
Naphthalene	ND	44.9	58.6	77	40.3	56.9	71	10-135	11	40			

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/07/2008  
**Date Analyzed:** 04/07/2008

**Lab Control Spike/Duplicate Lab Control Spike Summary**  
**Volatile Organic Compounds**

**Extraction Method:** EPA 5030A  
**Analysis Method:** 8260B

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low  
**Extraction Lot:** KWG0803227

Analyte Name	Lab Control Sample KWG0803227-3			Duplicate Lab Control Sample KWG0803227-4			%Rec Limits	RPD	RPD Limit			
	Lab Control Spike			Duplicate Lab Control Spike								
	Result	Expected	%Rec	Result	Expected	%Rec						
Dichlorodifluoromethane	36.5	50.0	73	36.4	50.0	73	34-161	0	40			
Chloromethane	39.3	50.0	79	38.0	50.0	76	50-146	3	40			
Vinyl Chloride	41.9	50.0	84	40.9	50.0	82	58-136	2	40			
Bromomethane	35.0	50.0	70	34.9	50.0	70	54-166	0	40			
Chloroethane	36.6	50.0	73	36.0	50.0	72	53-135	2	40			
Trichlorofluoromethane	40.4	50.0	81	38.7	50.0	77	57-129	4	40			
Acetone	199	250	80	209	250	84	47-110	5	40			
1,1-Dichloroethene	51.2	50.0	102	49.6	50.0	99	80-134	3	40			
Carbon Disulfide	93.6	100	94	92.5	100	93	69-138	1	40			
Methylene Chloride	41.2	50.0	82	42.3	50.0	85	47-169	3	40			
trans-1,2-Dichloroethene	49.9	50.0	100	49.0	50.0	98	80-118	2	40			
1,1-Dichloroethane	51.7	50.0	103	50.0	50.0	100	76-119	3	40			
2-Butanone (MEK)	183	250	73	186	250	74	67-111	1	40			
2,2-Dichloropropane	52.8	50.0	106	51.2	50.0	102	78-131	3	40			
cis-1,2-Dichloroethene	49.4	50.0	99	48.7	50.0	97	84-124	1	40			
Chloroform	51.3	50.0	103	50.4	50.0	101	78-117	2	40			
Bromochloromethane	45.7	50.0	91	46.0	50.0	92	79-119	1	40			
1,1,1-Trichloroethane (TCA)	53.2	50.0	106	51.8	50.0	104	77-126	3	40			
1,1-Dichloropropene	54.1	50.0	108	51.9	50.0	104	80-125	4	40			
Carbon Tetrachloride	55.4	50.0	111	53.6	50.0	107	77-133	3	40			
1,2-Dichloroethane (EDC)	45.8	50.0	92	45.7	50.0	91	72-124	0	40			
Benzene	54.1	50.0	108	53.0	50.0	106	75-126	2	40			
Trichloroethene (TCE)	49.3	50.0	99	47.7	50.0	95	81-119	3	40			
1,2-Dichloropropane	50.0	50.0	100	49.1	50.0	98	79-118	2	40			
Bromodichloromethane	50.9	50.0	102	50.5	50.0	101	82-127	1	40			
Dibromomethane	42.4	50.0	85	42.5	50.0	85	79-118	0	40			
2-Hexanone	208	250	83	204	250	82	55-122	2	40			
cis-1,3-Dichloropropene	48.6	50.0	97	47.8	50.0	96	84-121	2	40			
Toluene	48.0	50.0	96	47.1	50.0	94	77-115	2	40			
trans-1,3-Dichloropropene	44.1	50.0	88	43.7	50.0	87	74-109	1	40			
1,1,2-Trichloroethane	47.2	50.0	94	46.6	50.0	93	77-111	1	40			
4-Methyl-2-pentanone (MIBK)	236	250	94	236	250	94	67-120	0	40			
1,3-Dichloropropane	48.7	50.0	97	48.2	50.0	96	77-112	1	40			
Tetrachloroethene (PCE)	49.1	50.0	98	47.3	50.0	95	81-113	4	40			
Dibromochloromethane	48.6	50.0	97	48.6	50.0	97	82-116	0	40			

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/07/2008  
**Date Analyzed:** 04/07/2008

**Lab Control Spike/Duplicate Lab Control Spike Summary**  
**Volatile Organic Compounds**

**Extraction Method:** EPA 5030A  
**Analysis Method:** 8260B

**Units:** ug/Kg  
**Basis:** Dry  
**Level:** Low  
**Extraction Lot:** KWG0803227

<b>Analyte Name</b>	Lab Control Sample KWG0803227-3			Duplicate Lab Control Sample KWG0803227-4			<b>%Rec Limits</b>	<b>RPD RD</b>	<b>RPD Limit</b>			
	Lab Control Spike			Duplicate Lab Control Spike								
	<b>Result</b>	<b>Expected</b>	<b>%Rec</b>	<b>Result</b>	<b>Expected</b>	<b>%Rec</b>						
1,2-Dibromoethane (EDB)	45.5	50.0	91	45.0	50.0	90	79-111	1	40			
Chlorobenzene	46.9	50.0	94	46.5	50.0	93	78-106	1	40			
1,1,1,2-Tetrachloroethane	51.5	50.0	103	51.0	50.0	102	79-113	1	40			
Ethylbenzene	47.4	50.0	95	46.4	50.0	93	79-111	2	40			
m,p-Xylenes	105	100	105	102	100	102	80-116	3	40			
o-Xylene	51.8	50.0	104	50.4	50.0	101	79-113	3	40			
Styrene	50.8	50.0	102	50.2	50.0	100	82-118	1	40			
Bromoform	50.4	50.0	101	51.1	50.0	102	81-121	1	40			
Isopropylbenzene	49.3	50.0	99	48.3	50.0	97	73-104	2	40			
1,1,2,2-Tetrachloroethane	47.5	50.0	95	46.5	50.0	93	69-113	2	40			
1,2,3-Trichloropropane	44.3	50.0	89	45.0	50.0	90	74-114	2	40			
Bromobenzene	44.3	50.0	89	43.7	50.0	87	76-109	2	40			
n-Propylbenzene	52.2	50.0	104	51.2	50.0	102	76-122	2	40			
2-Chlorotoluene	49.1	50.0	98	48.4	50.0	97	75-116	2	40			
4-Chlorotoluene	46.2	50.0	92	45.4	50.0	91	72-114	2	40			
1,3,5-Trimethylbenzene	49.2	50.0	98	48.0	50.0	96	75-116	2	40			
tert-Butylbenzene	51.2	50.0	102	50.4	50.0	101	75-117	2	40			
1,2,4-Trimethylbenzene	49.6	50.0	99	48.7	50.0	97	76-117	2	40			
sec-Butylbenzene	50.1	50.0	100	48.9	50.0	98	81-126	2	40			
1,3-Dichlorobenzene	46.3	50.0	93	45.2	50.0	90	76-108	3	40			
4-Isopropyltoluene	50.0	50.0	100	48.7	50.0	97	73-114	3	40			
1,4-Dichlorobenzene	45.0	50.0	90	44.9	50.0	90	74-108	0	40			
n-Butylbenzene	49.2	50.0	98	47.5	50.0	95	75-122	3	40			
1,2-Dichlorobenzene	45.1	50.0	90	44.7	50.0	89	76-107	1	40			
1,2-Dibromo-3-chloropropane	43.7	50.0	87	43.8	50.0	88	71-112	0	40			
1,2,4-Trichlorobenzene	46.3	50.0	93	50.6	50.0	101	78-128	9	40			
1,2,3-Trichlorobenzene	45.7	50.0	91	49.4	50.0	99	77-125	8	40			
Naphthalene	46.1	50.0	92	51.7	50.0	103	70-124	11	40			
Hexachlorobutadiene	50.1	50.0	100	53.8	50.0	108	77-129	7	40			

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**Semi-Volatile Organic Compounds  
EPA Method 8270C**

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 04/03/2008  
**Date Received:** 04/04/2008

**Semi-Volatile Organic Compounds by GC/MS**

<b>Sample Name:</b>	SB-12	<b>Units:</b>	mg/Kg
<b>Lab Code:</b>	K0802946-001	<b>Basis:</b>	Dry
<b>Extraction Method:</b>	EPA 3541	<b>Level:</b>	Low
<b>Analysis Method:</b>	8270C		

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	04/11/08	04/23/08	KWG0803318	
Aniline	ND U	1.0	1	04/11/08	04/23/08	KWG0803318	
Bis(2-chloroethyl) Ether	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Phenol	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
2-Chlorophenol	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
1,3-Dichlorobenzene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
1,4-Dichlorobenzene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
1,2-Dichlorobenzene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Benzyl Alcohol	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Bis(2-chloroisopropyl) Ether	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
2-Methylphenol	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Hexachloroethane	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
N-Nitrosodi-n-propylamine	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
4-Methylphenol†	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Nitrobenzene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Isophorone	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
2-Nitrophenol	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
2,4-Dimethylphenol	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Bis(2-chloroethoxy)methane	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
2,4-Dichlorophenol	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Benzoic Acid	ND U	2.0	1	04/11/08	04/23/08	KWG0803318	
1,2,4-Trichlorobenzene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Naphthalene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
4-Chloroaniline	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Hexachlorobutadiene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
4-Chloro-3-methylphenol	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
2-Methylnaphthalene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Hexachlorocyclopentadiene	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
2,4,6-Trichlorophenol	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
2,4,5-Trichlorophenol	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
2-Chloronaphthalene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
2-Nitroaniline	ND U	2.0	1	04/11/08	04/23/08	KWG0803318	
Acenaphthylene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 04/03/2008  
**Date Received:** 04/04/2008

## Semi-Volatile Organic Compounds by GC/MS

**Sample Name:** SB-12 **Units:** mg/Kg  
**Lab Code:** K0802946-001 **Basis:** Dry  
**Extraction Method:** EPA 3541 **Level:** Low  
**Analysis Method:** 8270C

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dimethyl Phthalate	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
2,6-Dinitrotoluene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Acenaphthene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
3-Nitroaniline	ND U	2.0	1	04/11/08	04/23/08	KWG0803318	
2,4-Dinitrophenol	ND U	2.0	1	04/11/08	04/23/08	KWG0803318	
Dibenzofuran	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
4-Nitrophenol	ND U	2.0	1	04/11/08	04/23/08	KWG0803318	
2,4-Dinitrotoluene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Fluorene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
4-Chlorophenyl Phenyl Ether	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Diethyl Phthalate	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
4-Nitroaniline	ND U	2.0	1	04/11/08	04/23/08	KWG0803318	
2-Methyl-4,6-dinitrophenol	ND U	2.0	1	04/11/08	04/23/08	KWG0803318	
N-Nitrosodiphenylamine	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
4-Bromophenyl Phenyl Ether	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
Hexachlorobenzene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Pentachlorophenol	ND U	2.0	1	04/11/08	04/23/08	KWG0803318	
Phenanthrene	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
Anthracene	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
Di-n-butyl Phthalate	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
Fluoranthene	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
Pyrene	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
Butyl Benzyl Phthalate	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
3,3'-Dichlorobenzidine	ND U	2.0	1	04/11/08	04/23/08	KWG0803318	
Benz(a)anthracene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Chrysene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Bis(2-ethylhexyl) Phthalate	ND U	0.34	1	04/11/08	04/23/08	KWG0803318	
Di-n-octyl Phthalate	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Benzo(b)fluoranthene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Benzo(k)fluoranthene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Benzo(a)pyrene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Indeno(1,2,3-cd)pyrene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	
Dibenz(a,h)anthracene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

## Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** 04/03/2008  
**Date Received:** 04/04/2008

**Semi-Volatile Organic Compounds by GC/MS**

**Sample Name:** SB-12 **Units:** mg/Kg  
**Lab Code:** K0802946-001 **Basis:** Dry  
**Extraction Method:** EPA 3541 **Level:** Low  
**Analysis Method:** 8270C

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(g,h,i)perylene	ND U	0.33	1	04/11/08	04/23/08	KWG0803318	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	17	18-83	04/23/08	Outside Control Limits
Phenol-d6	33	22-96	04/23/08	Acceptable
Nitrobenzene-d5	49	25-99	04/23/08	Acceptable
2-Fluorobiphenyl	66	26-106	04/23/08	Acceptable
2,4,6-Tribromophenol	22	20-111	04/23/08	Acceptable
Terphenyl-d14	71	28-118	04/23/08	Acceptable

## † Analyte Comments

4-Methylphenol This analyte cannot be separated from 3-Methylphenol.

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** NA  
**Date Received:** NA

**Semi-Volatile Organic Compounds by GC/MS**

<b>Sample Name:</b>	Method Blank	<b>Units:</b>	mg/Kg
<b>Lab Code:</b>	KWG0803318-5	<b>Basis:</b>	Dry
<b>Extraction Method:</b>	EPA 3541	<b>Level:</b>	Low
<b>Analysis Method:</b>	8270C		

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	1.5	1	04/11/08	04/29/08	KWG0803318	
Aniline	ND U	0.75	1	04/11/08	04/29/08	KWG0803318	
Bis(2-chloroethyl) Ether	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Phenol	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2-Chlorophenol	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
1,3-Dichlorobenzene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
1,4-Dichlorobenzene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
1,2-Dichlorobenzene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Benzyl Alcohol	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Bis(2-chloroisopropyl) Ether	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2-Methylphenol	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Hexachloroethane	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
N-Nitrosodi-n-propylamine	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
4-Methylphenol†	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Nitrobenzene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Isophorone	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2-Nitrophenol	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2,4-Dimethylphenol	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Bis(2-chloroethoxy)methane	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2,4-Dichlorophenol	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Benzoic Acid	ND U	1.5	1	04/11/08	04/29/08	KWG0803318	
1,2,4-Trichlorobenzene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Naphthalene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
4-Chloroaniline	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Hexachlorobutadiene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
4-Chloro-3-methylphenol	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2-Methylnaphthalene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Hexachlorocyclopentadiene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2,4,6-Trichlorophenol	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2,4,5-Trichlorophenol	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2-Chloronaphthalene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2-Nitroaniline	ND U	1.5	1	04/11/08	04/29/08	KWG0803318	
Acenaphthylene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	

Comments: \_\_\_\_\_

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** NA  
**Date Received:** NA

**Semi-Volatile Organic Compounds by GC/MS**

<b>Sample Name:</b>	Method Blank	<b>Units:</b>	mg/Kg
<b>Lab Code:</b>	KWG0803318-5	<b>Basis:</b>	Dry
<b>Extraction Method:</b>	EPA 3541	<b>Level:</b>	Low
<b>Analysis Method:</b>	8270C		

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dimethyl Phthalate	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
2,6-Dinitrotoluene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Acenaphthene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
3-Nitroaniline	ND U	1.5	1	04/11/08	04/29/08	KWG0803318	
2,4-Dinitrophenol	ND U	1.5	1	04/11/08	04/29/08	KWG0803318	
Dibenzofuran	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
4-Nitrophenol	ND U	1.5	1	04/11/08	04/29/08	KWG0803318	
2,4-Dinitrotoluene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Fluorene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
4-Chlorophenyl Phenyl Ether	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Diethyl Phthalate	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
4-Nitroaniline	ND U	1.5	1	04/11/08	04/29/08	KWG0803318	
2-Methyl-4,6-dinitrophenol	ND U	1.5	1	04/11/08	04/29/08	KWG0803318	
N-Nitrosodiphenylamine	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
4-Bromophenyl Phenyl Ether	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Hexachlorobenzene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Pentachlorophenol	ND U	1.5	1	04/11/08	04/29/08	KWG0803318	
Phenanthrene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Anthracene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Di-n-butyl Phthalate	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Fluoranthene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Pyrene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Butyl Benzyl Phthalate	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
3,3'-Dichlorobenzidine	ND U	1.5	1	04/11/08	04/29/08	KWG0803318	
Benz(a)anthracene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Chrysene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Bis(2-ethylhexyl) Phthalate	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Di-n-octyl Phthalate	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Benzo(b)fluoranthene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Benzo(k)fluoranthene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Benzo(a)pyrene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Indeno(1,2,3-cd)pyrene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	
Dibenz(a,h)anthracene	ND U	0.25	1	04/11/08	04/29/08	KWG0803318	

Comments: \_\_\_\_\_

## **COLUMBIA ANALYTICAL SERVICES, INC.**

### Analytical Results

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Collected:** NA  
**Date Received:** NA

## Semi-Volatile Organic Compounds by GC/MS

**Sample Name:** Method Blank      **Units:** mg/Kg  
**Lab Code:** KWG0803318-5      **Basis:** Dry  
**Extraction Method:** EPA 3541      **Level:** Low  
**Analysis Method:** 8270C

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(g,h,i)perylene	ND	U	0.25	1	04/11/08	04/29/08	KWG0803318	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	32	18-83	04/29/08	Acceptable
Phenol-d6	39	22-96	04/29/08	Acceptable
Nitrobenzene-d5	42	25-99	04/29/08	Acceptable
2-Fluorobiphenyl	52	26-106	04/29/08	Acceptable
2,4,6-Tribromophenol	35	20-111	04/29/08	Acceptable
Terphenyl-d14	72	28-118	04/29/08	Acceptable

### **† Analyte Comments**

4-Methylphenol This analyte cannot be separated from 3-Methylphenol.

**Comments:**

**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946**Surrogate Recovery Summary**  
**Semi-Volatile Organic Compounds by GC/MS****Extraction Method:** EPA 3541**Units:** PERCENT**Analysis Method:** 8270C**Level:** Low

<b>Sample Name</b>	<b>Lab Code</b>	<b>Sur1</b>	<b>Sur2</b>	<b>Sur3</b>	<b>Sur4</b>	<b>Sur5</b>	<b>Sur6</b>
SB-12	K0802946-001	17	*	33	49	66	22
Method Blank	KWG0803318-5	32		39	42	52	35
Lab Control Sample	KWG0803318-3	51		54	56	68	72
Duplicate Lab Control Sample	KWG0803318-4	46		46	47	56	66
							69

**Surrogate Recovery Control Limits (%)**

Sur1 = 2-Fluorophenol	18-83	Sur5 = 2,4,6-Tribromophenol	20-111
Sur2 = Phenol-d6	22-96	Sur6 = Terphenyl-d14	28-118
Sur3 = Nitrobenzene-d5	25-99		
Sur4 = 2-Fluorobiphenyl	26-106		

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

## COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/11/2008  
**Date Analyzed:** 04/23/2008

**Lab Control Spike/Duplicate Lab Control Spike Summary**  
**Semi-Volatile Organic Compounds by GC/MS**

**Extraction Method:** EPA 3541  
**Analysis Method:** 8270C

**Units:** mg/Kg

**Basis:** Dry

**Level:** Low

**Extraction Lot:** KWG0803318

<b>Analyte Name</b>	Lab Control Sample KWG0803318-3			Duplicate Lab Control Sample KWG0803318-4			<b>%Rec Limits</b>	<b>RPD RD</b>	<b>RPD Limit</b>			
	Lab Control Spike			Duplicate Lab Control Spike								
	<b>Result</b>	<b>Expected</b>	<b>%Rec</b>	<b>Result</b>	<b>Expected</b>	<b>%Rec</b>						
N-Nitrosodimethylamine	1.68	3.33	51	1.70	3.33	51	33-95	1	40			
Aniline	2.01	3.33	60	1.78	3.33	53	19-96	13	40			
Bis(2-chloroethyl) Ether	1.98	3.33	59	1.63	3.33	49	39-92	19	40			
Phenol	1.87	3.33	56	1.58	3.33	48	39-90	16	40			
2-Chlorophenol	1.89	3.33	57	1.72	3.33	52	42-89	9	40			
1,3-Dichlorobenzene	1.81	3.33	54	1.64	3.33	49	39-86	10	40			
1,4-Dichlorobenzene	1.84	3.33	55	1.65	3.33	50	39-86	11	40			
1,2-Dichlorobenzene	1.91	3.33	57	1.66	3.33	50	41-86	14	40			
Benzyl Alcohol	2.06	3.33	62	1.81	3.33	54	43-94	13	40			
Bis(2-chloroisopropyl) Ether	1.96	3.33	59	1.68	3.33	50	36-95	15	40			
2-Methylphenol	1.90	3.33	57	1.57	3.33	47	30-96	19	40			
Hexachloroethane	1.83	3.33	55	1.70	3.33	51	38-89	7	40			
N-Nitrosodi-n-propylamine	1.77	3.33	53	1.55	3.33	47	37-99	13	40			
4-Methylphenol	1.88	3.33	56	1.53	3.33	46	28-101	21	40			
Nitrobenzene	1.96	3.33	59	1.69	3.33	51	40-94	15	40			
Isophorone	2.12	3.33	64	1.89	3.33	57	39-99	11	40			
2-Nitrophenol	2.15	3.33	65	1.94	3.33	58	44-96	10	40			
2,4-Dimethylphenol	1.28	3.33	38	0.771	3.33	23	11-99	50 *	40			
Bis(2-chloroethoxy)methane	2.13	3.33	64	1.94	3.33	58	41-95	10	40			
2,4-Dichlorophenol	2.22	3.33	66	1.96	3.33	59	44-93	12	40			
Benzoic Acid	0.783	3.33	24	0.849	3.33	25	10-94	8	40			
1,2,4-Trichlorobenzene	2.18	3.33	65	1.96	3.33	59	42-90	11	40			
Naphthalene	2.34	3.33	70	2.08	3.33	62	41-90	12	40			
4-Chloroaniline	2.35	3.33	71	2.08	3.33	62	36-95	12	40			
Hexachlorobutadiene	2.36	3.33	71	2.04	3.33	61	39-90	14	40			
4-Chloro-3-methylphenol	2.42	3.33	73	2.22	3.33	67	44-100	8	40			
2-Methylnaphthalene	2.47	3.33	74	2.13	3.33	64	43-94	14	40			
Hexachlorocyclopentadiene	0.891	3.33	27	0.806	3.33	24	10-89	10	40			
2,4,6-Trichlorophenol	2.10	3.33	63	1.78	3.33	53	47-101	17	40			
2,4,5-Trichlorophenol	2.07	3.33	62	1.86	3.33	56	46-103	10	40			
2-Chloronaphthalene	2.20	3.33	66	1.85	3.33	55	44-95	18	40			
2-Nitroaniline	2.39	3.33	72	2.28	3.33	68	43-113	5	40			
Acenaphthylene	2.20	3.33	66	1.85	3.33	56	44-101	17	40			
Dimethyl Phthalate	2.39	3.33	72	2.31	3.33	69	47-112	4	40			
2,6-Dinitrotoluene	2.31	3.33	69	2.30	3.33	69	49-114	0	40			

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

**Client:** Univar USA, Inc.  
**Project:** Portland  
**Sample Matrix:** Soil

**Service Request:** K0802946  
**Date Extracted:** 04/11/2008  
**Date Analyzed:** 04/23/2008

**Lab Control Spike/Duplicate Lab Control Spike Summary**  
**Semi-Volatile Organic Compounds by GC/MS**

**Extraction Method:** EPA 3541  
**Analysis Method:** 8270C

**Units:** mg/Kg  
**Basis:** Dry  
**Level:** Low  
**Extraction Lot:** KWG0803318

Analyte Name	Lab Control Sample KWG0803318-3 Lab Control Spike			Duplicate Lab Control Sample KWG0803318-4 Duplicate Lab Control Spike			%Rec Limits	RPD	RPD Limit
	Result	Expected	%Rec	Result	Expected	%Rec			
	2.29	3.33	69	2.24	3.33	67	46-99	2	40
Acenaphthene	2.74	3.33	82	2.67	3.33	80	40-113	3	40
3-Nitroaniline	2.45	3.33	74	2.46	3.33	74	22-113	0	40
2,4-Dinitrophenol	2.39	3.33	72	2.24	3.33	67	45-100	7	40
Dibenzofuran	2.71	3.33	81	2.74	3.33	82	32-122	1	40
4-Nitrophenol	2.55	3.33	76	2.44	3.33	73	45-119	4	40
Fluorene	2.51	3.33	75	2.31	3.33	69	44-104	8	40
Diethyl Phthalate	2.47	3.33	74	2.50	3.33	75	44-120	1	40
4-Chlorophenyl Phenyl Ether	2.89	3.33	87	2.78	3.33	84	34-120	4	40
2,4-Dinitrotoluene	2.34	3.33	70	2.34	3.33	70	39-105	0	40
N-Nitrosodiphenylamine	2.51	3.33	75	2.25	3.33	67	48-112	11	40
2-Methyl-4,6-dinitrophenol	2.55	3.33	76	2.46	3.33	74	49-107	4	40
4-Bromophenyl Phenyl Ether	2.55	3.33	76	1.96	3.33	59	39-107	4	40
Hexachlorobenzene	2.58	3.33	89	2.87	3.33	86	49-106	13	40
Pentachlorophenol	2.68	3.33	80	2.87	3.33	86	43-111	7	40
Phenanthrene	2.51	3.33	75	2.43	3.33	73	48-105	1	40
Anthracene	2.55	3.33	76	2.43	3.33	73	47-112	11	40
Pyrene	2.55	3.33	76	2.43	3.33	73	45-114	6	40
Butyl Benzyl Phthalate	2.58	3.33	89	2.58	3.33	88	43-111	7	40
3,3'-Dichlorobenzidine	2.51	3.33	72	2.60	3.33	78	47-112	8	40
Chrysene	2.41	3.33	72	2.60	3.33	78	38-113	7	40
Benz(a)anthracene	2.55	3.33	82	2.58	3.33	82	52-108	5	40
Bis(2-ethylhexyl) Phthalate	2.55	3.33	77	2.58	3.33	85	49-110	10	40
Di-n-octyl Phthalate	2.58	3.33	69	2.58	3.33	77	47-112	11	40
Benzo(b)fluoranthene	2.51	3.33	79	2.64	3.33	78	53-117	1	40
Benzo(k)fluoranthene	2.55	3.33	78	2.61	3.33	78	52-110	0	40
Indeno(1,2,3-cd)pyrene	2.58	3.33	79	2.61	3.33	83	51-113	4	40
Benzo(a)pyrene	2.58	3.33	88	2.63	3.33	83	51-111	6	40
Dibenz(a,h)anthracene	2.51	3.33	84	2.79	3.33	82	51-111	3	40
Benzo(g,h,i)perylene	2.55	3.33	90	2.93	3.33	83	50-113	7	40
	2.55	3.33	88	2.93	3.33	78	42-116	12	40

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.